Perancangan Perangkat Lunak

Design for Software

Pasca Sarjana UG
Design for Software: A Playbook for Developers, Erik Climczak, 2013

**PART I PLANNING**
1. RESEARCH
2. INSPIRATION

**PART II DESIGN THINKING**
3. SKETCHING
4. INFORMATION ARCHITECTURE
5. WIREFRAMES
6. PROTOTYPING

**PART III VISUAL DESIGN**
7. COLOR
8. DIGITAL TYPOGRAPHY
9. VISUAL COMMUNICATION
10. MOTION

**PART IV INTERACTION DESIGN**
11. INTERACTION DESIGN PRINCIPLES
12. DESIGN PATTERNS
Introduction

• Design for Software connects the dots between these elements (Cognitive Psychology, Visual Aesthetics and Engineering Excellence) with a process that approaches the mechanics of design with real world techniques.

• Interface design is often equated to knowing design tools like Photoshop and Illustrator—creating gradients, drop shadows, and the quintessential glass themed buttons. That is one type of design.

• Design for Software is something else, “a method for producing applications that look great and people want to use”
I. Planning

• Well-designed software doesn’t start with a functional requirements list, pretty pictures, or a slick algorithm. It starts with people.

• USER RESEARCH TECHNIQUE #1: OBSERVATION

• Observation is perhaps the easiest, cheapest, and quickest way to elicit real feedback from your target audience. Simply observing users in their environment can be an invaluable tool to keep in your software-design utility belt.
Case study observation

• A couple of years ago, my company was consulted on a project in which the client wanted to increase the efficiency of the retail checkout processes. You know the scene—you’re standing in a checkout line noting that there are 30 registers, with only one servicing customers. So, you decide to ditch your basket and walk. That was precisely the problem we were asked to resolve. The client voiced the problem loud and clear: “Time is money, and saving even one second per transaction matters.”

• First, we observed transactions at the checkout lane as they happened in real time. As we began our investigation, we noticed the whole process was peppered with little bottlenecks. Most peculiarly, the total checkout time was only loosely correlated to the basket size. Curious about what was causing these bottlenecks, we looked deeper into the tasks involved with ringing up a customer. We timed everything from how long it took to bag milk and weigh produce to how long it took to return cash and accept electronic payments.
Case study observation

• We discovered one consistent bottleneck—ringing up of produce. All those tasty apples, onions, and spices caused the average transaction to take up to six times longer than other items. This bottleneck occurred because each produce item had a unique barcode found by combing through a little black code book. Every time a produce item came across the belt, employees had to flip through this book, which disrupted the whole checkout process. At that point, we had our key insight, and it was clear what we had to do: eliminate the black book and make ringing up produce as fast as possible.
USER RESEARCH TECHNIQUE #2: USER INTERVIEWS

As the interviewer, you’re on a mission to find out exactly what users want.

- We’re bad at articulating what makes us happy.
- We’re bad at predicting what we’ll like or dislike.
- We’re bad at giving feedback on things we don’t care about

Get the right users

Depending on the project, I usually try to find the following:

- Existing users, Potential users, Power users
- Former users (these are the best users to interview)
USER RESEARCH TECHNIQUE #2: USER INTERVIEWS

Wrong questions, wrong answers

• Avoid closed questions, Anda senang menggunakan software ‘X’ ini?

• Avoid leading questions, Apakah benar anda lebih produktif ketika menggunakan software ‘X’?

• Use open-ended questions, Ceritakan apa manfaat anda menggunakan software ‘X’?
USER RESEARCH TECHNIQUE #3: PERSONAS: Using personas helps keep your feature list focused on primary users.

PERSONA: Jamie Smith

DEMOGRAPHIC INFO
- AGE: 28
- GENDER: Male
- JOB TITLE: Account manager
- LOCATION: Chicago, IL
- SKILL LEVEL: Intermediate

QUOTES
- "I hate it when a client drops a bomb on me and I didn’t expect it."
- "So many spreadsheets and emails… I wish I could see everything in one place at a glance."
- "I like to try new apps and sites that my friends and co-workers recommend."

GOALS
1. Keep boss informed
2. Stay up to date with the project team
3. Submit information as quickly as possible, ideally in real-time
4. Have a clear inbox before the end of the day

MOTIVATIONS
- Feel in control of my day
- Likes to meet interesting people to add to his personal network
- Be prepared for client meetings
- Head off problems before they become critical
- Maintain a good relationship with the client

BEHAVIORS
- Uses smart phone ‘off the clock’ to respond to emails
- Works on many projects at once and infrequently focuses on one task at a time
- Keeps a messy computer desktop mixed with shortcuts, old files, new files, and applications.
- Frequently travels onsite to the client and uses VPN to access network files

PAIN POINTS
- Has to use too many programs to complete a single task
- Lack of consistency makes it hard to remember how to perform certain actions
- Most of the data is unavailable via mobile device
- The information is not real-time
USER RESEARCH TECHNIQUE #4:
USER STORIES AND SCENARIOS

• To assist with creating scenarios and stories, you can use a method called P.I.E.C.E.
  ◆ Persona: Who are you targeting?
  ◆ Intrigue: What attracts users to the product?
  ◆ Engage: How do you help users achieve their goals?
  ◆ Close: How do users exit the scenario?
  ◆ Extend: How can the user extend the experience beyond the screen?

Contoh?
Gambarkan PIECE dari tugas kelompok masing-masing
INSPIRATION TECHNIQUE #1: MATERIAL COLLECTION

“The materials which must be gathered are of two kinds: they are specific and they are general.”
INSPIRATION TECHNIQUE #1: MATERIAL COLLECTION

- Where do I find these materials?
  - Menus
  - Packaging
  - Nature
  - Video games
  - Movies and TV shows
  - Magazines
INSPIRATION TECHNIQUE #2: CREATE AN INSPIRATION BLOG

http://iglovequotes.net/archive

2,391 notes

AT R ME: Arrent ion is not

Sponsored

#love quotes #relationship quotes #love

2,624 notes
INSPIRATION TECHNIQUE #3: MOOD BOARDS

- Do explore unlikely elements from non-digital sources.
- Do create two to three unique styles.
- Don’t just copy and paste things from all your favorite websites.
- Don’t use mood boards to describe motion or transitions.
- When presenting mood boards to clients, explain your findings and try to get them to articulate why their product or brand will or will not work with a particular style. I promise, spending a brief time up front to define the design direction will save you hours of frustration later.
INSPIRATION TECHNIQUE #4: HEURISTIC IDEATION

- a sample that was created when we were trying to explore interesting food and technology combinations.

<table>
<thead>
<tr>
<th>CREATIVE FOOD IDEAS</th>
<th>SWEET TREATS</th>
<th>FAMILY TIME</th>
<th>HEALTHY</th>
<th>READY QUICK</th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTI-TOUCH</td>
<td>Multi-touch</td>
<td>Tablet based</td>
<td>Nutrition</td>
<td>Refrigerator</td>
</tr>
<tr>
<td></td>
<td>gum ball machine</td>
<td>kid-friendly dinner planner</td>
<td>helper mobile application</td>
<td>widget with recipe suggestions</td>
</tr>
<tr>
<td>VOICE CONTROL</td>
<td>Voice-controlled candy bar</td>
<td>Kitchen helper controlled by voice when hands are dirty</td>
<td>“I want something with less than 100 calories”</td>
<td>Recipe suggestions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Make the usual” voice command coffee machine</td>
</tr>
<tr>
<td>IMAGE RECOGNITION</td>
<td>Snap QR code to buy product</td>
<td>Find dinner recipe by image</td>
<td>Augmented reality “nutrition lens”</td>
<td>Snap a picture to see if it is “done”</td>
</tr>
</tbody>
</table>
Design Thinking—A Developer’s Kind of Design

Hardest part of software design because it relates to how the product feels— not how it looks → making product working, not just pretty

“A discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity.”
Sketching Technique #1: Application Flows

following rules of thumb can assist you:

• Define patterns.
• Be consistent with navigation, content, and functionality.
• Reduce steps; eliminate unnecessary elements.

Creating an Application Flow

• Step 1: List User Goals
• Step 2: List the Major Elements That Will Compose Each Screen
Sketching Technique #1: Application Flows
Sketching Technique #1: Application Flows

- Step 3: List Each Unique Screen
Step 4: Place the Elements and Define Actions
Step 5: Connect and Reduce
Sketching Technique #2: Storyboards

“Must Have”

• Storyboards help describe the environment and help put the idea into context when designing for user-centric tasks. As professionals, it’s our job to facilitate a dialogue among stakeholders, team members, and the users of the product

• can use storyboards throughout the entire design process
FIGURE 3-16 Storyboards can help articulate the value of an application by placing it in an environment and giving it some context.
INFORMATION ARCHITECTURE

The goal of IA is to help users make decisions and complete tasks without making them have to think.

Step 1: Define Themes, Goals and Requirements
Step 2: Choose a Layout
Step 3: Group Similar Items
Step 4: Be Consistent
Step 5: Reduce
WIREFRAMES

ALL TOO OFTEN designers and developers jump headfirst into a project. Designers focus on making things look as good as possible, and developers put their focus solely on the technology platform. And both groups ignore the deeper aspects of functionality.

Producing wireframes usually comes after you’ve sketched out some possibilities for application flow and gone through the due-diligence information architecture.
WIREFRAMES

an effective wireframe contains the following:

• Layout
• Hierarchy
• Interaction
• Content
• Functionality

Gambarkan Wireframes dari tugas kelompok masing-masing, boleh menggunakan tools ataupun gambar manual